GLOSSARY OF TECHNICAL TERMS

This glossary contains explanations of certain technical terms used in this document that relate to our business and the industry in which we operate. These terms and their meanings may not always correspond to standard industry meanings or usages of these terms.

"AEC"	Active Electrical Cable, an electrical cable with built-in electronics to extend reach and maintain signal integrity at high data rates
"ASIC"	Application-specific Integrated Circuit, a customized chip designed for a particular application or function, offering high performance and energy efficiency compared to general-purpose processors
"CMOS"	Complementary Metal-oxide-semiconductor, a mainstream semiconductor process technology used for fabricating integrated circuits
"CPO"	Co-packaged Optics, a technology that integrates optical components directly with switch or compute application-specific integrated circuit within the same package, enabling higher bandwidth density, lower power consumption and reduced latency compared with traditional pluggable optical modules
"CPU"	Central Processing Unit, the primary processing component of a computer that executes instructions and manages most computational tasks
"CWDM4"	Coarse Wavelength Division Multiplexing 4-lane, a 4-lane optical transmission standard that uses coarse wavelength division multiplexing for 2 km single-mode fiber links
"DMUX"	Demultiplexer, a device that separates a single input signal into multiple output channels for signal distribution
"DR4"	Distance Reach, an optical interface specification, using four parallel single-mode fiber lanes (each typically transmitting 100 Gbps or 200 Gbps) to achieve an aggregate data rate of 400 Gbps or 800 Gbps over a transmission distance of up to approximately 500 meters
"FPGA"	Field-Programmable Gate Array, a reconfigurable integrated circuit that can be programmed after manufacturing, often used for hardware prototyping, or specialized computing tasks

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"FR4"	Fiber Reach, an optical interface specification, using single-mode fiber lane (typically transmitting 100 Gbps or 200 Gbps) to achieve an aggregate data rate of 400 Gbps or 800 Gbps over a transmission distance of up to approximately two kilometers
"GPU"	Graphics Processing Unit
"LPO"	Linear Pluggable Optics
"LRO"	Linear Receiver Optics
"MPO"	Multi-Fiber Push-On/Pull-Off Connector, a fiber optic connector that allows multiple optical fibers to be connected in a single interface, enabling high-density, high-speed data transmission in data centers and telecommunication systems
"MUX"	Multiplexer, a device that combines multiple input signals into a single output channel for efficient data transmission
"NPO"	Near-packaged Optics, an optical transceiver placing close to, but out-side, the chip package to reduce power loss and improve signal efficiency
"OMA"	Optical Modulation Amplitude, the difference between the optical power levels of the "on" and "off" states of a transmitted signal, indicating the effective signal strength at the receiver
"OSFP"	Octal Small Form-Factor Pluggable, a standardized high-speed optical transceiver form factor that supports eight electrical lanes, typically used for 400G, 800G and 1.6T optical transceivers
"PAM4"	Pulse Amplitude Modulation 4-Level, a signal modulation technique that uses four distinct amplitude levels to encode two bits per symbol, doubling data rate without increasing bandwidth
"PCIe"	Peripheral Component Interconnect Express, a high-speed serial interface standard used to connect components to a computer's motherboard, providing fast data transfer between the central processing unit and peripheral
"QSFP"	Quad Small Form-Factor Pluggable, a compact, hot-pluggable transceiver that supports four data channels for high-speed network connections such as 40G, 100G, 200G, 400G Ethernet, and other networks

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"RHS"	Riding Heat Sink, a mechanical design variation of the OSFP form factor that employs a chassis-mounted heat sink rather than an integrated one on the module itself, enabling enhanced heat dissipation and supporting higher power optical transceivers
"SiPh"	Silicon Photonics
"SR4"	Short Reach 4-lane, short-reach optical interface using four parallel fiber lanes, typically for 100G Ethernet over multimode fiber
"TDECQ"	Transmitter and Dispersion Eye Closure Quaternary, a standard metric defined by the Institute of Electrical and Electronics Engineers Standard 802.3 to quantify the quality of optical transmitter signals using pulse amplitude modulation 4-level modulation. A lower TDECQ value indicates better signal integrity and lower transmission penalty
"VCSEL"	Vertical-Cavity Surface-Emitting Laser, a type of semiconductor laser that emits light vertically from its surface; commonly used in optical communication modules due to its low cost and high efficiency
"VR4"	Very-short-reach 4-lane, an optical interface standard using four parallel multimode fiber lanes, each typically transmitting 100 Gbps, to deliver 400 Gbps total bandwidth over short distances within data centers